KSC Managing Projects and Resources Online

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Project Management Challenge

How does a Project Management Office provide a tool to project managers and team members that provides:

- A consistent, familiar, and easy to use interface?
- A consistent budget planning and cost performance tracking capability?
- Capabilities for task, issues, risk, & documentation management?
- Resource tracking and visibility?
- A central repository of all project information?
- A reduction in the number of PM tools required for project execution?
- Consistent data in one location used to support multiple customers?
- Standardized and custom reporting to meet varied customer requirements?
- The ability to meet the unique requirements of multiple organizations across the center?
- and get people to use it?

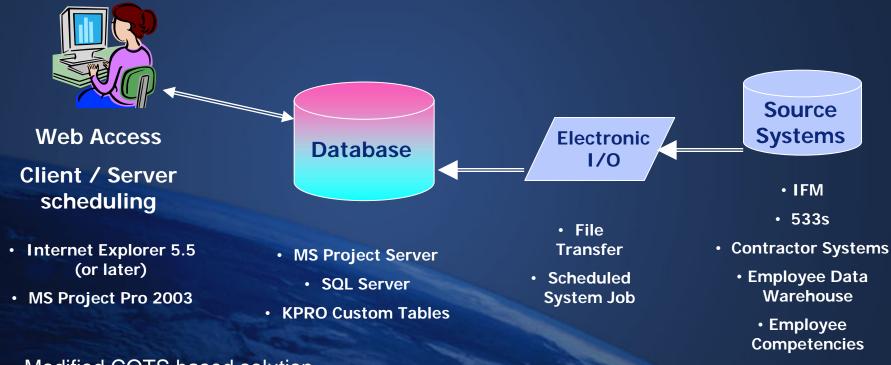
Our Answer...

KSC Projects and Resources Online (KPRO)

Plan, Track, and Report



KPRO System - Overview



Modified COTS based solution ---

- avoids the pitfalls of a home grown, difficult to maintain, NASA unique system.
- provides an opportunity to stay current with industry advances
- > yet provides a flexible and structured customization capability
- and allows developers to concentrate on NASA inherently unique needs and not reinventing the wheel

Database / Server / Security

- Microsoft Project Server database using SQL Server engine.
- Utilize MS Project Server security software to manage security on custom web pages.
- System access using standard KSC User Login and password, allowing KPRO to adhere to center security requirements.
- System defined user roles with predetermined permission levels that are linked to project resource groups

Interfaces

External system interfaces have been established to provide access to current information regarding;

- Project cost data from IFM and 533s
- Project cost data from contractor systems
- NASA defined competencies for resource assignments and civil servant FTE estimating at the project / fund source / program level
- NASA / contractor employee information such as email address, telephone number, organization used to establish a global resource pool

Schedule Management

Planning, Tracking, Reporting



Schedule Management

- MS Project Professional (2003) loaded on desktop computers of project managers, schedulers, and leads
- Schedules are saved in KPRO server database
 - Central repository of project schedules and utilized resources
 - Enables insight into the use, and availability of org. resources
 - Schedules can be developed off-line and checked out
- Uses standard MS Project features
 - KPRO developers enhanced Project tool bars and views
- Project Team Members can view and update schedules via
 Web Access
 - Web Access does not require Project Professional
 - Web Access uses Internet Explorer (5.5 or later)
 - Automatically informs team members and Project Managers of tasks, task updates, and action item assignments via email

Budget Management

Planning, Tracking, Reporting



Budget Management (cont.)

- Operating Plans
- Program Operating Plan
- Uses Web Access
- Based on standard MS Project Server "look and feel"

Operating Plans - PLANNING

The KPRO System provides a standardized capability for defining <u>project</u> fiscal plans.

- → Project managers enter plans via the web interface
- → All plans are maintained on the KPRO server
- The plans can be grouped by project manager, project office, major discipline areas, fund source and program.
- Three plan versions are supported
 - Draft --- PM working copy
 - Approved --- current plan, may be different from baseline
 - Baseline --- original plan established at the start of the FY

Operating Plans – PLANNING (cont'd)

- PMs submit plans for approval by the program
- Plans identify the following key information;
 - Program / Fund source
 - Project Advocate / Customer
 - Technical Advocate
 - Major discipline group
 - Project Description
 - → Plan revision
 - Date submitted and approved

Operating Plans – PLANNING (cont.)

- Project plans include commitments, obligations, and cost phasing.
- Phasing plans are developed at organizational breaks within a project.
- Organization breaks are administratively defined via the web and can be tailored to different program needs.
- KPRO could automatically accept Operating Plan data from budget loaded project schedules, but all details would have to be in the schedule
 - → Organizations tasked
 - → Commitments vs. Obligations vs. Costs

Operating Plans - TRACKING

- KPRO facilitates tracking of cost performance (plan versus actual) for Projects, Fund Sources & Programs
- IFM cost data is associated to the organizational breaks using
 - WBS Element (ie. 76-374-aa-bb, 72-385-xx) "or"
 - ✓ Commitment Item "or"
 - ✓ Procurement document "or"
 - ✓ Contract document
 - Fund Center (ie. 76C4ALGSSP), then either
 - ✓ Commitment Item "or"
 - ✓ Procurement document "or"
 - ✓ Contract document
- Contractor cost information is associated to projects by task agreement numbers (ie. Task order #, agreement #, work package #)

Operating Plans – TRACKING (cont.)

- Cost actuals are loaded monthly and automatically associated to projects
- > KPRO allows viewing of cost actuals at various levels
 - ✓ For projects, at organizational breaks
 - ✓ As project totals
 - ✓ By customer defined discipline breaks
 - ✓ By fund source level
- Provides comparison of Actual vs. Plan (baselined and approved plans).

Operating Plans - REPORTING

- Reporting can be tailored to meet specific program / customer needs. All the data is available to be formatted as required.
- Summary reporting is available at various levels
 - ▶ Project
 - Organization within projects
 - > Fund source
 - ➤ Major Discipline groupings
 - ➤ Program

Program Operating Plan (POP)

POP Submission, Analysis, and Approval

- Uses a methodology very similar to Operating Plans
- Proposed Projects submit a Project Task Description Sheet (PTDS)
- Fund Source Manager enters dollar amount guidelines for next 12 fiscal years.
- Criteria and Weighting developed by POP Team and input into KPRO to produce prioritized project list for review.
- Discipline Managers enter additional Priorities into KPRO Example:
 - ◆ Urgency 36%
 - ◆ Safety Improvement 9%
 - ◆ Project In Work 4%
 - ♦ New Technology Development/Commercialization 9%
- POP Analysis
 - Fund Source Manager and POP Team work within KPRO to change individual project funding requests and priorities to meet fiscal guidelines.
- Fund Source Manager enters approval status for POP
 - POP Freeze
 - Program Review
 - POP Final

Program Operating Plan (cont'd)

PTDS Entry

- Project Manager can modify or create a new PTDS for an existing project or create a new project and PTDS
 - Main Information entry
 - → Basic information about the project (e.g. PM, Advocate, Project Name)
 - Details
 - → Provides details at the Budget Profile Organization (BPO) level
 - ◆ Data entered for each BPO (Labor hours, Other Direct Costs, Commitments, and Obligations)
 - Criteria
 - ♦ Allows the PM to assess the project priority against pre-established priority criteria using a 5 point scale
 - → Criteria a weighted by the funding authority
 - Versioning
 - → PM can leave PTDS as an in-work draft and submit for funding consideration

Program Operating Plan (cont'd)

Discipline Priority Evaluation

- A Discipline Manager can assess the priority of all projects submitted from his/her area
 - Ranking of all projects in a discipline area are displayed
 - Discipline Manager can view and modify the criteria assessment on individual projects within the discipline

Automated Analysis

- Tool uses assessed criteria, criteria weights, and Funding Source Guidelines to level the budget to meet funding source guidelines
- Some projects will be pushed to out-years or pulled in based on the year and amount of funding requested and the priority of the project

POP Analysis

The Funding Authority can review the outcome of the automated analysis for the upcoming Fiscal Years and edit the budget request of individual projects based on need

Program Operating Plan (cont'd)

POP Adjustments Log

The Funding Authority can keep a log of actions taken on individual projects

POP Freeze

- Throughout POP cycle, the Funding Authority can Freeze activity
 - Freeze is based on funding source and POP year
 - Funding Source can Freeze/unfreeze updates for:
 - ♦ All projects in the fund source
 - → All projects in a discipline
 - ♦ An individual project (PTDS)

A Look to the Future

Earned Value Management

- KPRO is being used to support EVM on selected projects
- Project capabilities support planning for EVM
- Project lacks the capability necessary to do full EVM analysis
- We are using Project Connect to interface Project data with wlnsight to perform full EVM analysis and reporting

Usability of KPRO at other sites

- KPRO can be deployed at other sites. It would have to be tailored to meet the unique needs of your organization
- Our development team can work with your team to establish a system to meet all of your needs

Summary

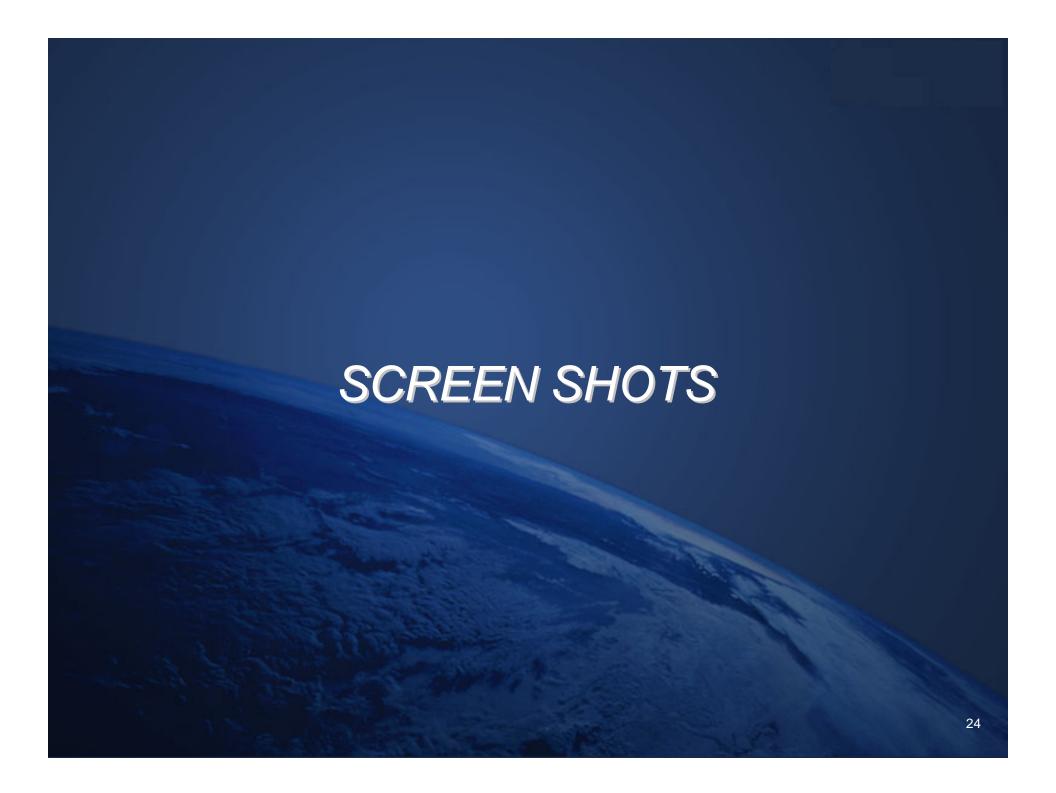
The KPRO tool provides

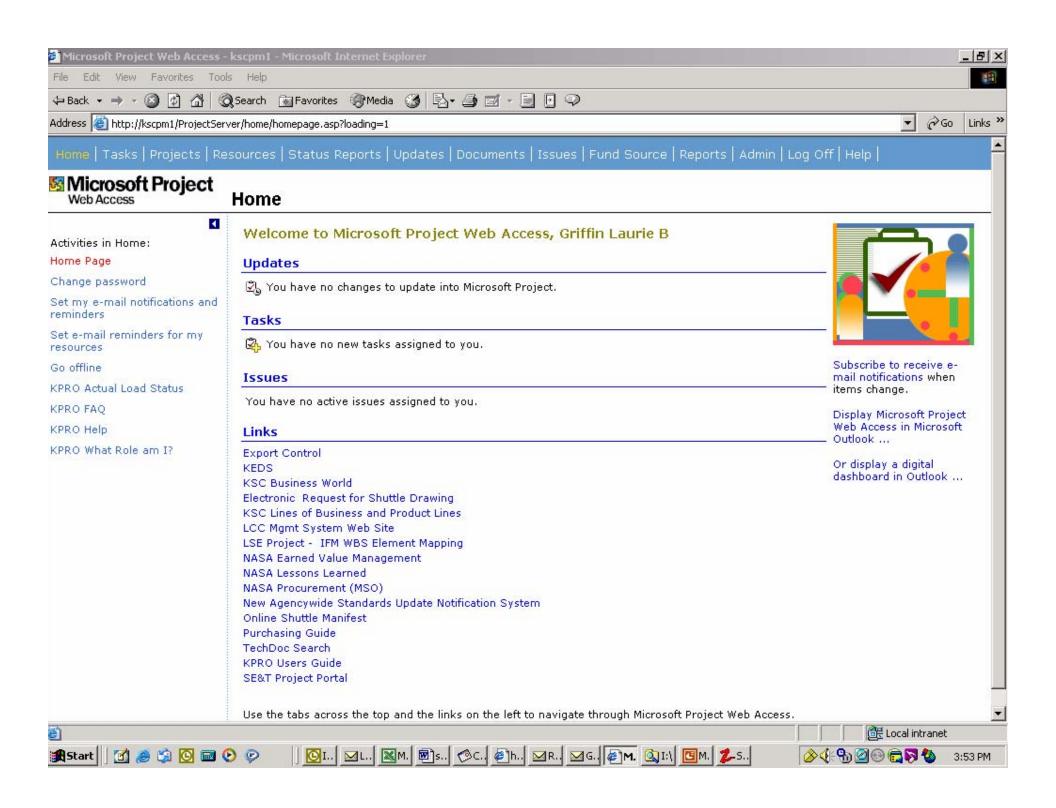
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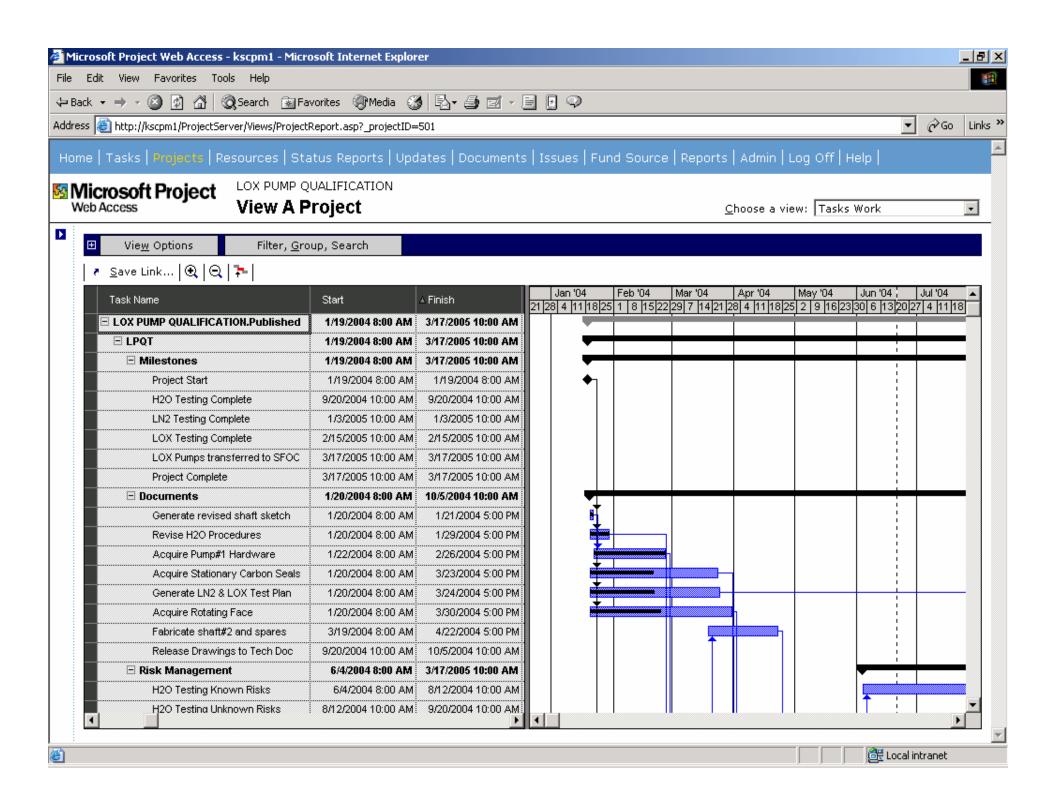
Contact Information

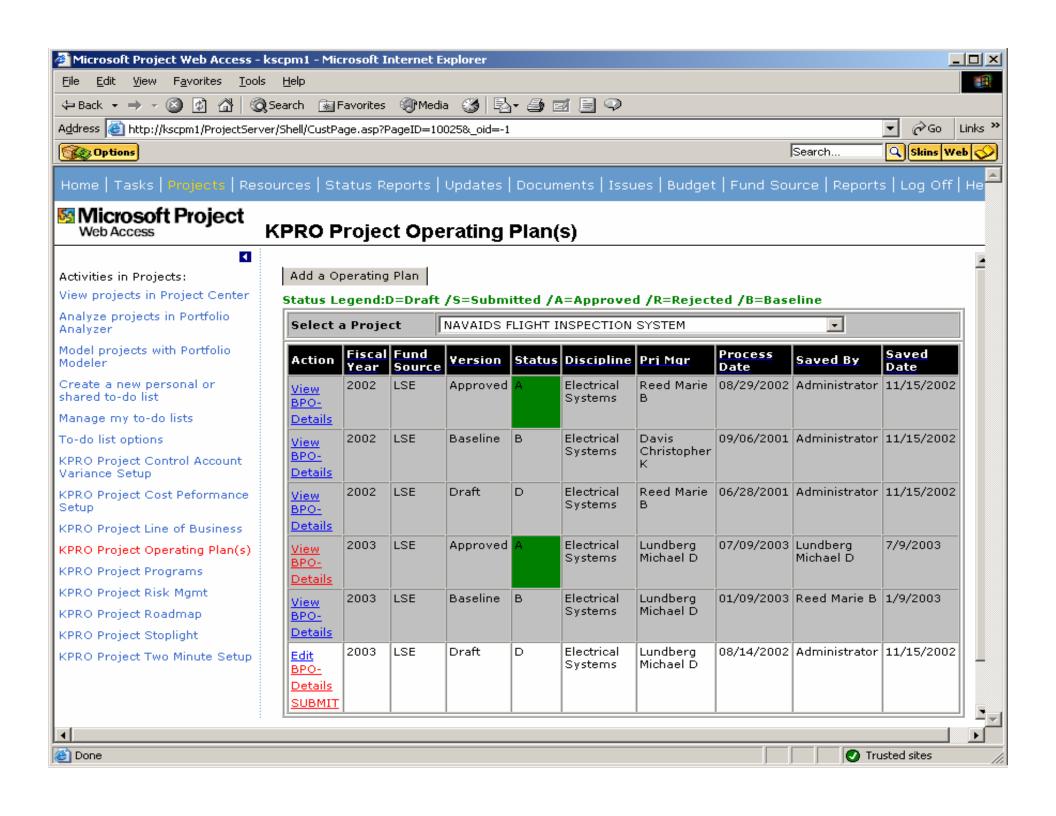
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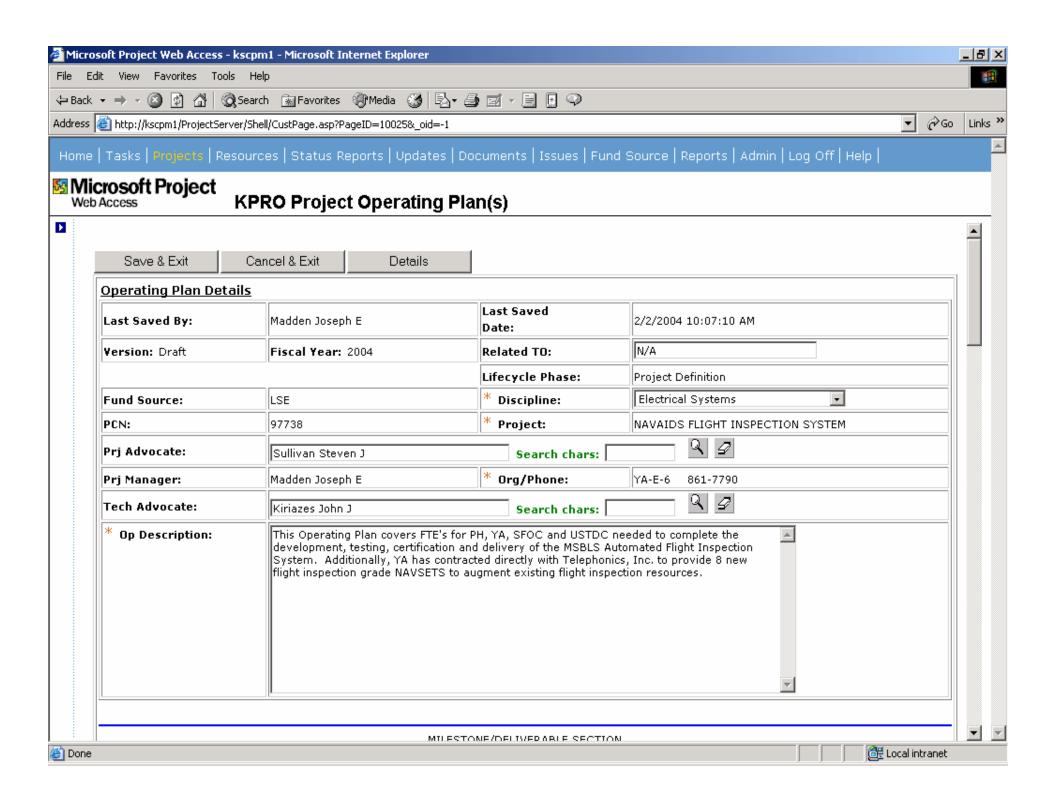
Marie B. Reed Chief, Operational Spaceport Project Office YA-E2, KSC, FL 32899 321-867-1521 marie.b.reed@nasa.gov

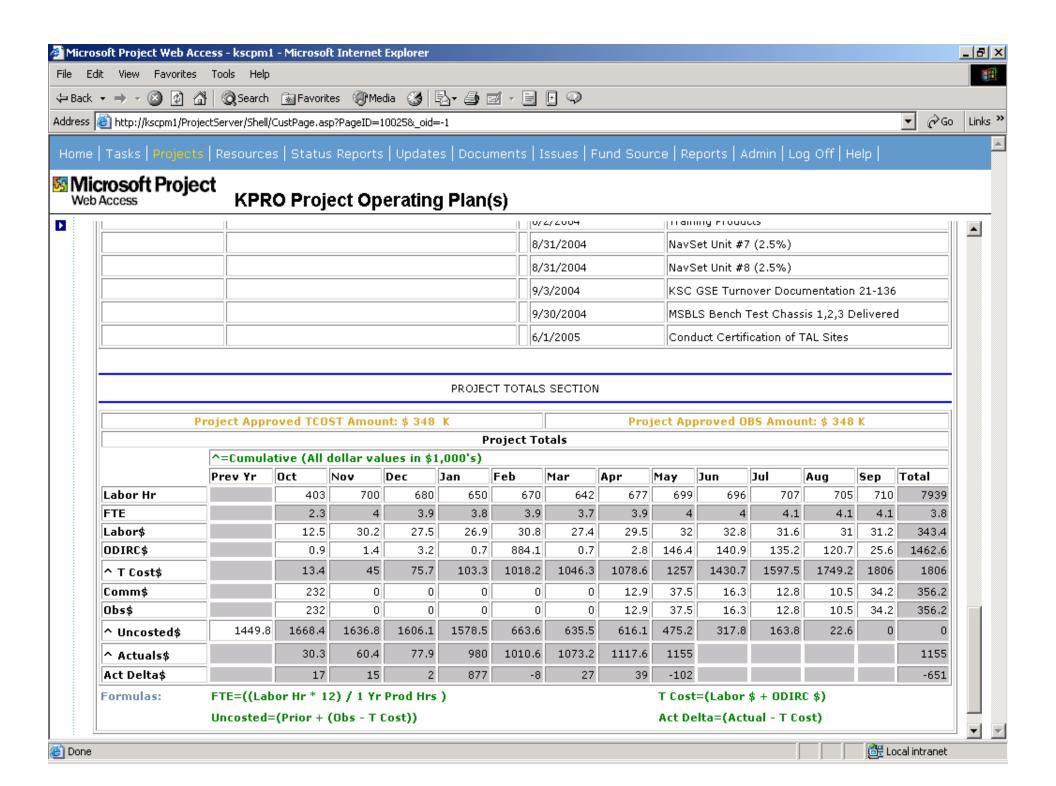


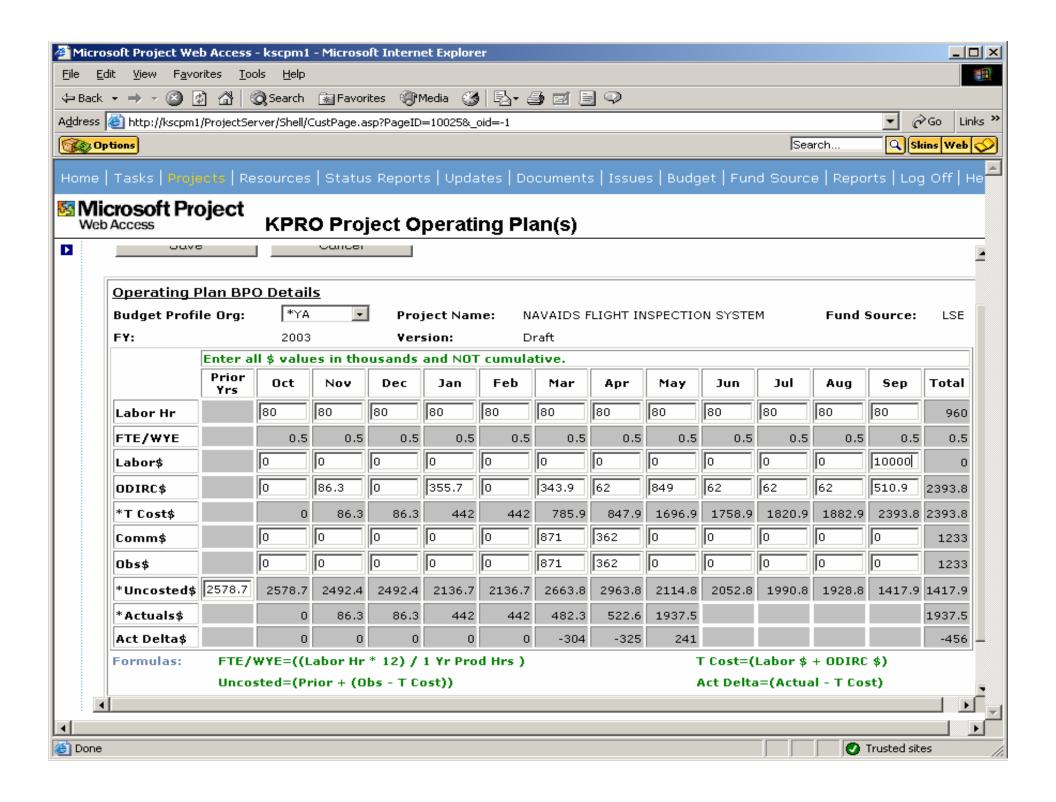












OPERATING PLAN

"KS's rounded"

Fund Source = LSE; Fiscal Year = 2004; Discipline = (AI); Project = CRAWLER TRANSPORTER UPGRADES; Version = Approved;

Approved TCost \$K:	1836	Related Task Order:	N/A	Process Date:	06/07/2004
Fund Source:		Lifecycle Phase:	Operations/Close-out	Fiscal Year:	2004
Discipline:	Facilities and Structural Sys	Version:	Approved #4		

97566 PCN:

Project: CRAWLER TRANSPORTER UPGRADES

	Name	Organization	Phone
Proj. Advoc.:	Hamilton Mark S	PH-J-2	861-3252
	Hamilton Mark S	PH-J-2	861-3252
Tech. Advoc.:	None	-	-

9/29/2004

Procure Hydraulic Silencers

OP Description: Design and implement several modifications to eliminate end-of-service-life and obsolescense issues on the Crawler Transporters, which are approaching 40 years of service at KSC. Examples of tasks to be implemented under this project include (but are not limited to) the following: perform comprehensive non-destructive examination of critical load path structure, design and install new motor control centers, design and install upgraded fire protection and HVAC systems, and rebuild existing jacking cylinders and hydraulic pumps. Procure and install 16 new tread belts and two spare tread belts.

	treda bello alla two opare treda bello.		
Start Date	Milestone	Start Date	Deliverable
1/21/2005	Refurbish 3rd Pair (includes new bearings)	9/20/2003	Integrated MCC Upgrade
10/17/2002	Refurbish 1st Pair	2/9/2004	Procurement & Suppliers Set-up
12/11/2001	JEL Cylinder Bearing Re-Design	5/14/2004	Refurbish White Exhaust Manifolds
2/9/2004	Procurement & Suppliers Set-up	6/23/2004	Refurbish White Exhaust Manifolds
4/1/2005	Servo Valve Path Finder, Steering Skid, Ventilation & Control	7/30/2004	Suppliers Fabricate 1044 New Shoes
	Room	9/29/2004	Procure Hydraulic Silencers
5/14/2004	Refurbish White Exhaust Manifolds		
5/20/2005	Refurbish 4th Pair		
6/23/2004	Refurbish White Exhaust Manifolds		
6/28/2004	Hydraulic Silencer Certification Testing		
7/19/2004	Bearing Procurements (Not currently Funded)		
7/30/2004	Suppliers Fabricate 1044 New Shoes		
9/17/2004	Refurbish 2nd Pair		
9/20/2003	Integrated MCC Upgrade		
9/29/2003	Develop New Design Drawings & Specs		
	1/21/2005 10/17/2002 12/11/2001 2/9/2004 4/1/2005 5/14/2004 5/20/2005 6/23/2004 6/28/2004 7/19/2004 7/30/2004 9/17/2004 9/20/2003	Start Date Milestone 1/21/2005 Refurbish 3rd Pair (includes new bearings) 10/17/2002 Refurbish 1st Pair 12/11/2001 JEL Cylinder Bearing Re-Design 2/9/2004 Procurement & Suppliers Set-up 4/1/2005 Servo Valve Path Finder, Steering Skid, Ventilation & Control Room 5/14/2004 Refurbish White Exhaust Manifolds 5/20/2005 Refurbish 4th Pair 6/23/2004 Refurbish White Exhaust Manifolds 6/28/2004 Hydraulic Silencer Certification Testing 7/19/2004 Bearing Procurements (Not currently Funded) 7/30/2004 Suppliers Fabricate 1044 New Shoes 9/17/2004 Refurbish 2nd Pair 9/20/2003 Integrated MCC Upgrade	Start Date Milestone Start Date 1/21/2005 Refurbish 3rd Pair (includes new bearings) 9/20/2003 10/17/2002 Refurbish 1st Pair 2/9/2004 12/11/2001 JEL Cylinder Bearing Re-Design 5/14/2004 2/9/2004 Procurement & Suppliers Set-up 6/23/2004 4/1/2005 Servo Valve Path Finder, Steering Skid, Ventilation & Control 7/30/2004 Room 9/29/2004 5/14/2004 Refurbish White Exhaust Manifolds 5/20/2005 Refurbish 4th Pair 6/23/2004 Refurbish White Exhaust Manifolds 6/28/2004 Hydraulic Silencer Certification Testing 7/19/2004 Bearing Procurements (Not currently Funded) 7/30/2004 Suppliers Fabricate 1044 New Shoes 9/17/2004 Refurbish 2nd Pair 9/20/2003 Integrated MCC Upgrade

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5,019

0

0

3,326

0

		Fur	d Source = LS	E; Fiscal Year	= 2004; Discip	line = (AI); Pro	oject = CRAWLE	ER TRANSPOR	RTER UPGRAD	ES; Version	= Approved;			
Proi Total														
	Prev Year	Oct	Nov	Dec	Jan	<u>Feb</u>	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Labor Hr		914	182	778	1,509	484	197	879	276	2,958	3,808	3,132	3,169	18,286
FTE		5.80	1.20	5.00	9.60	3.10	1.30	5.60	1.80	18.90	24.30	20.00	20.20	9.70
Labor\$		45	18	25	67	21	14	48	18	125	181	139	138	837
ODIRC\$		89	95	6	16	11	3	6	30	12	1,355	2,116	2,336	6,074
T Cost\$		134	247	277	360	392	408	462	509	646	2,182	4,437	6,911	6,911
Comm\$		1,888	0	0	0	0	496	0	0	5,019	0	0	0	7,403
Obs\$		1,888	0	0	0	0	496	0	0	5,019	0	0	0	7,403
Uncosted\$	361	2,115	2,002	1,972	1,889	1,857	2,337	2,283	2,235	7,117	5,581	3,326	852	852
Actuals\$		134	247	277	359	392	408	462	517					517
Act Delta\$		0	0	0	0	0	0	0	8					-6,394
SFOC														
	Prev Year	<u>Oct</u>	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Labor Hr		914	182	778	1,509	484	197	879	276	2,958	3,808	3,132	3,169	18,286
FTE (Hrs:1880)		5.80	1.20	5.00	9.60	3.10	1.30	5.60	1.80	18.90	24.30	20.00	20.20	9.70
Labor\$		45	18	25	67	21	14	48	18	125	181	139	138	837
ODIRC\$		89	95	6	16	11	3	6	30	12	1,355	2,116	2,336	6,074
T Cost\$		134	247	277	360	392	408	462	509	646	2,182	4,437	6,911	6,911

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Obs\$

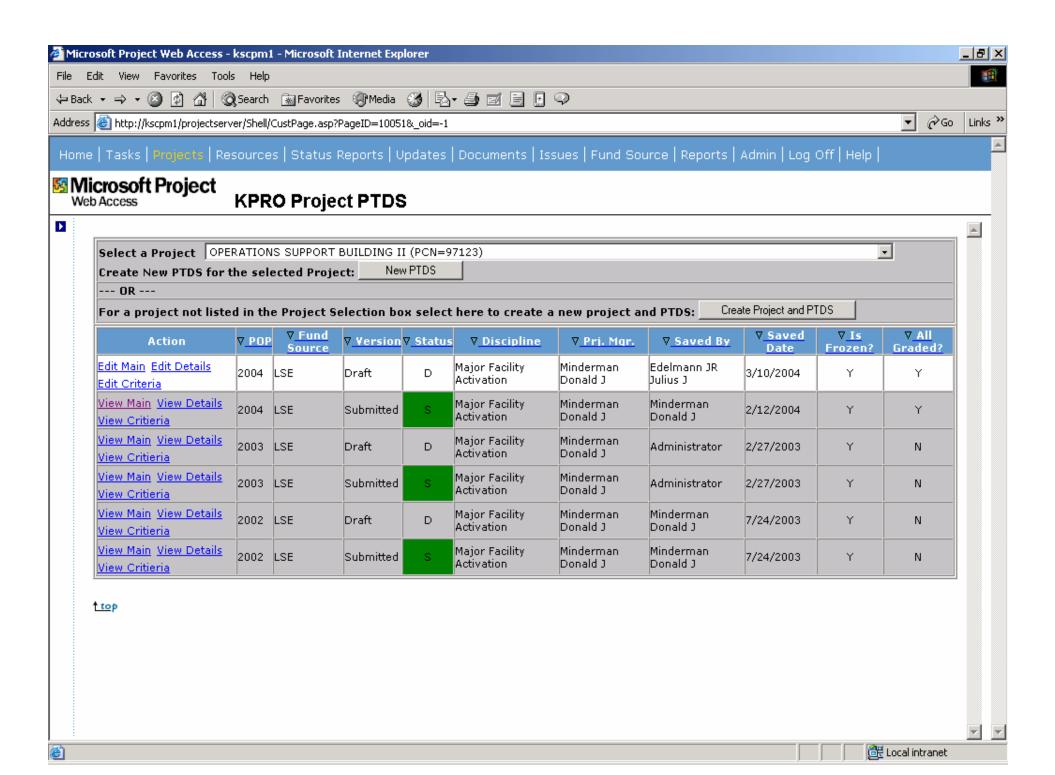
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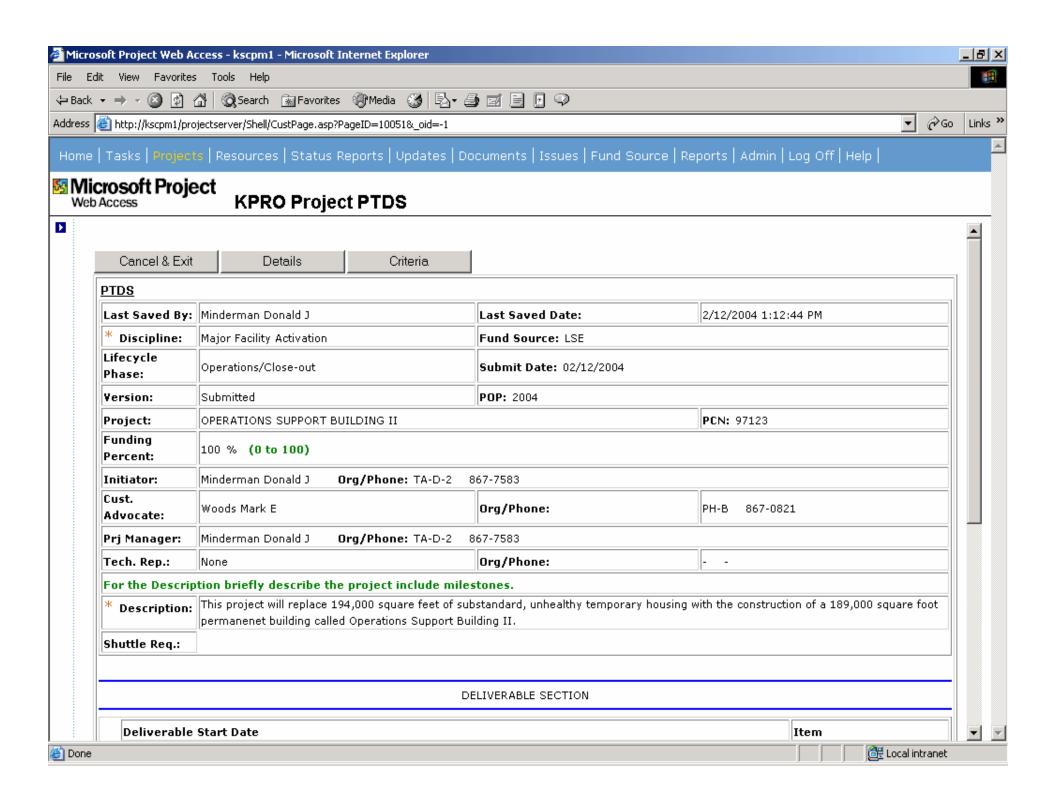
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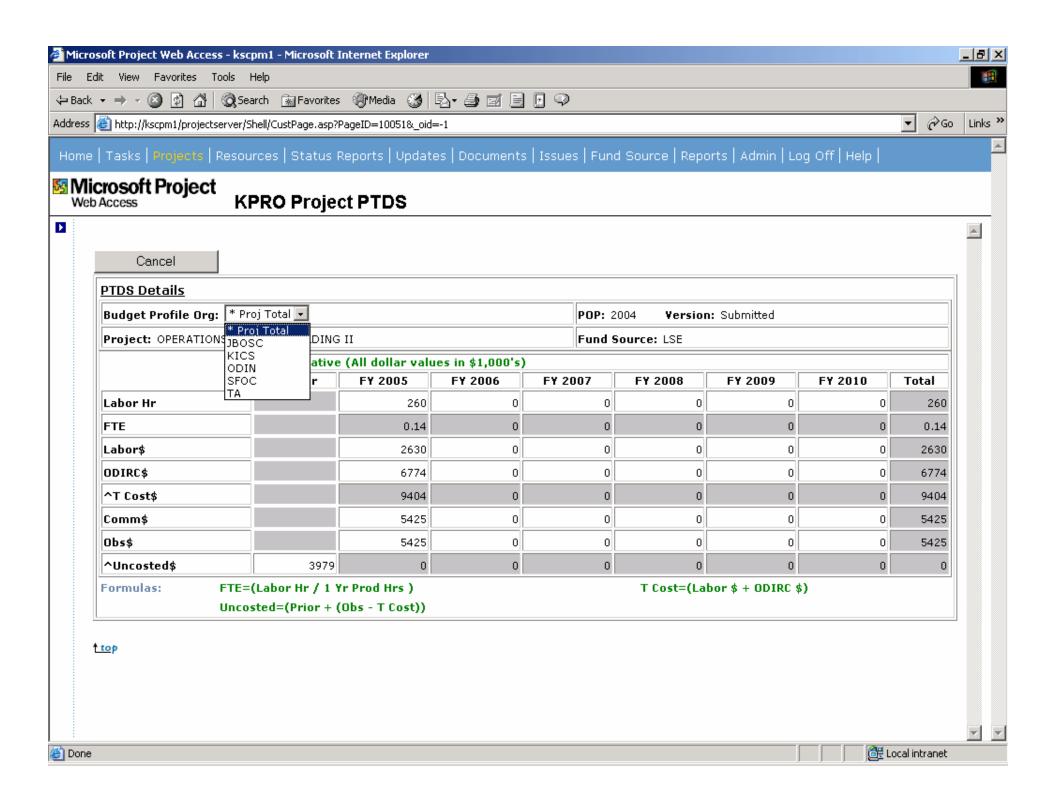
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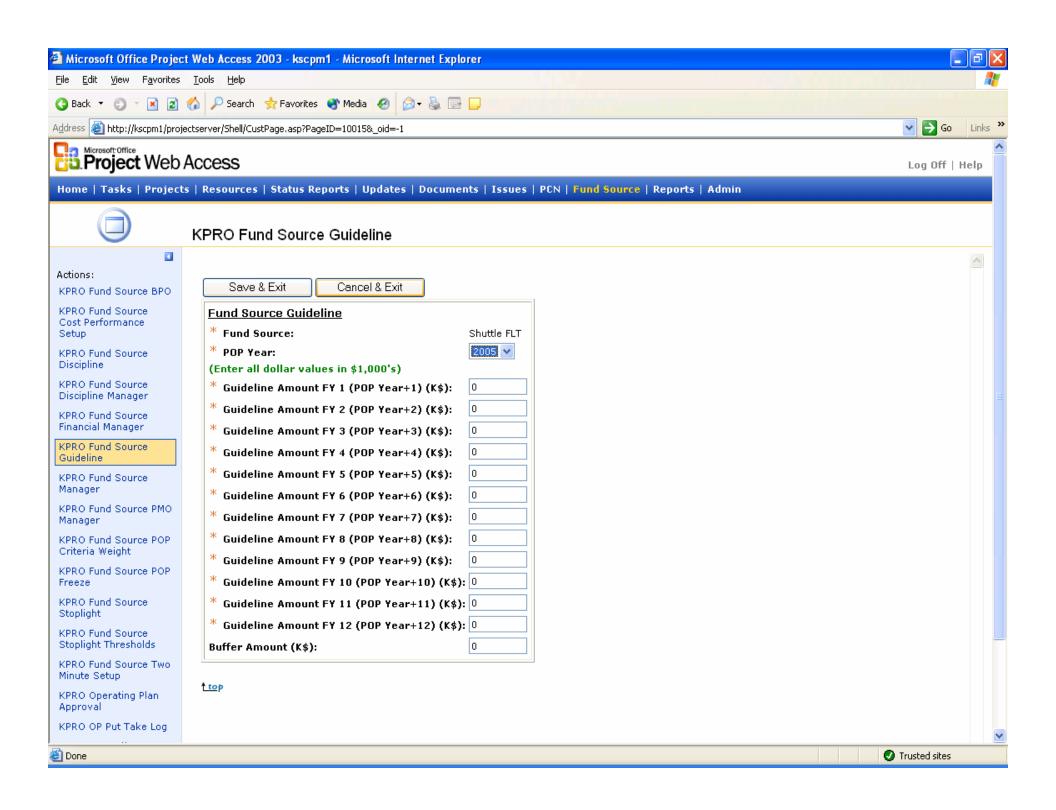
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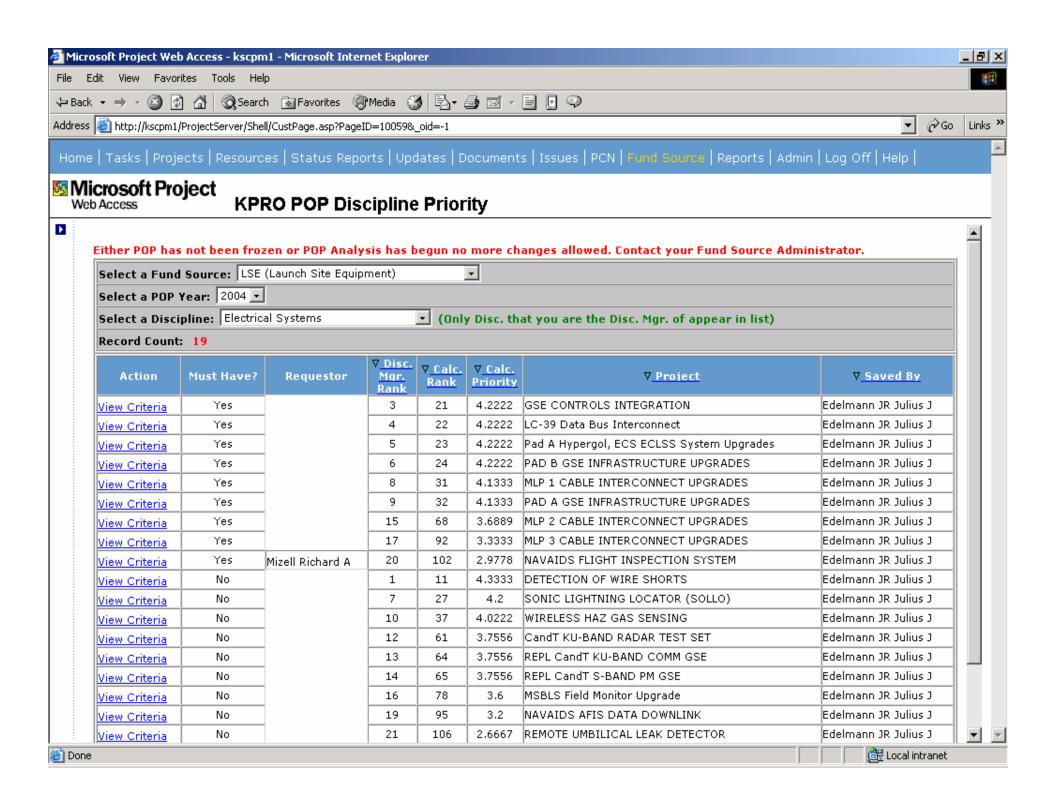
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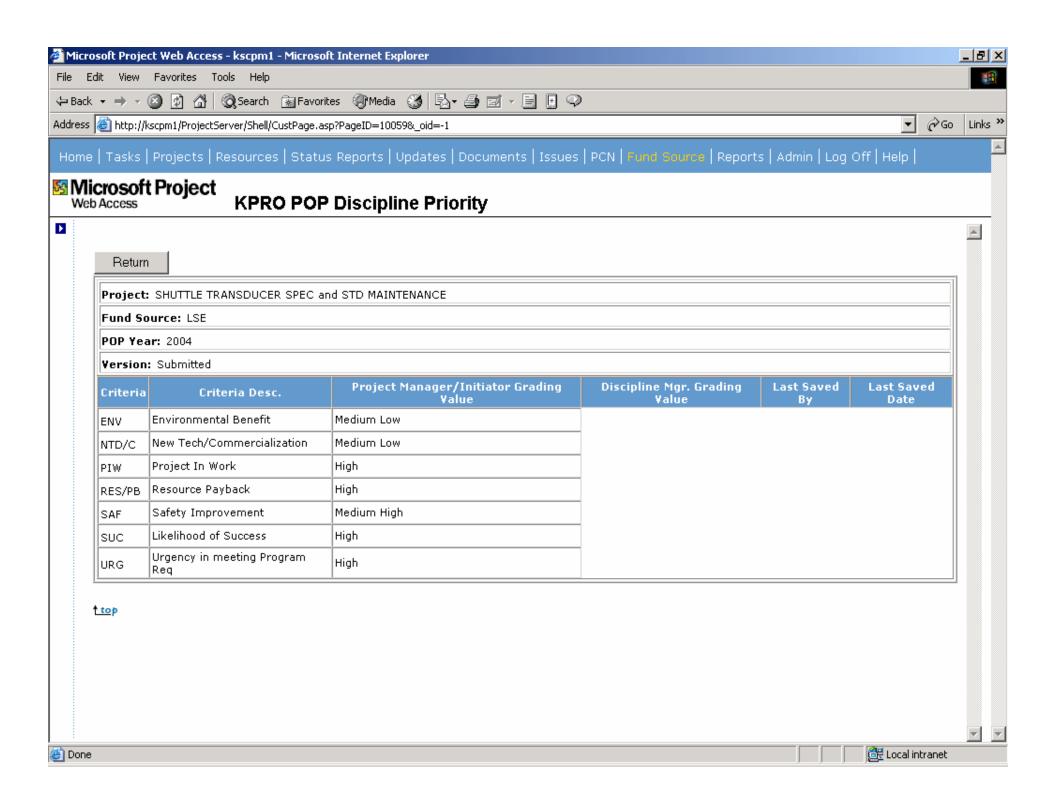


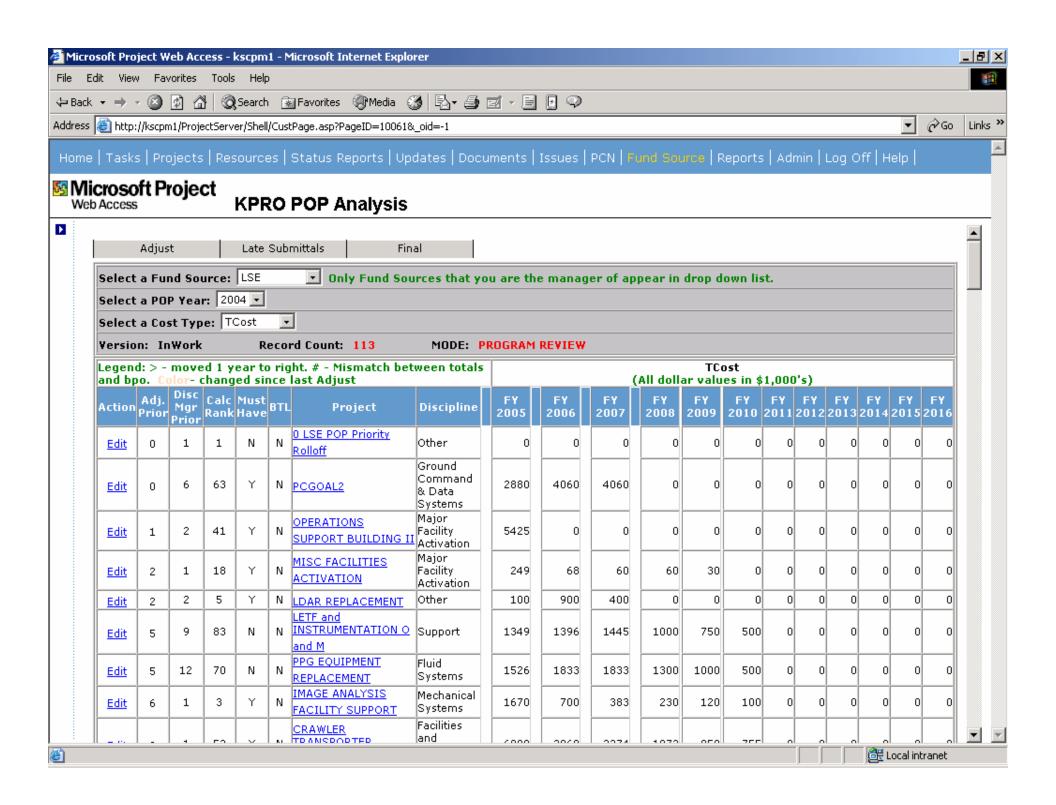


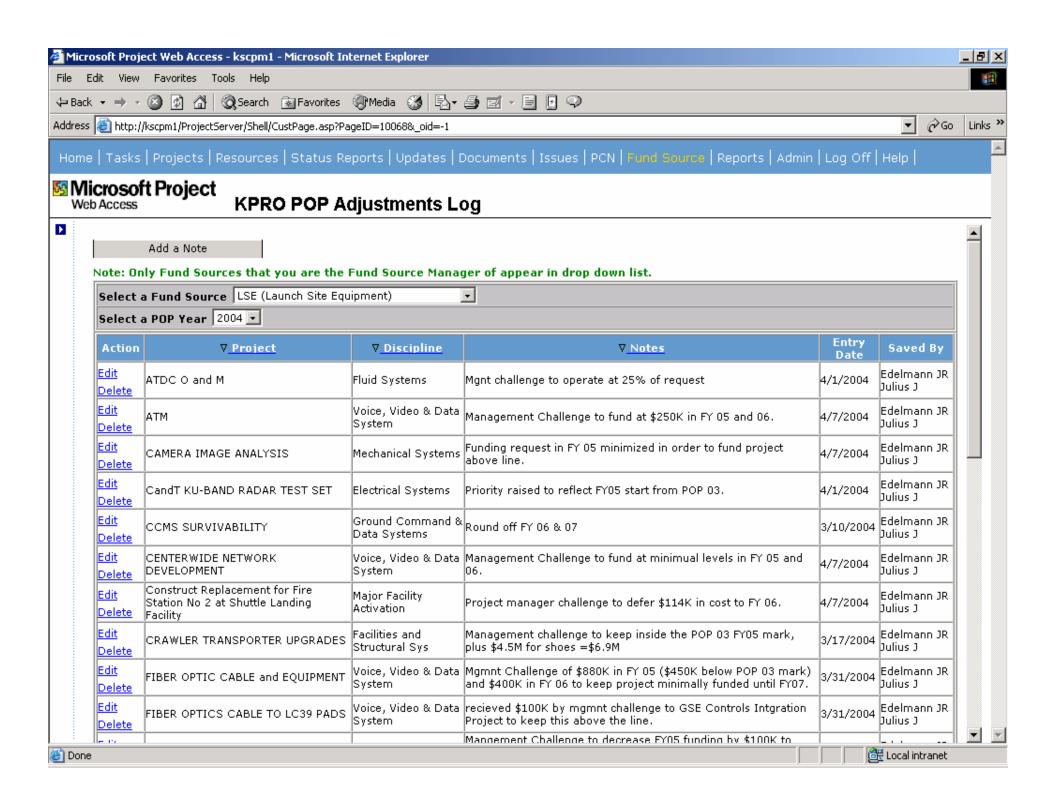










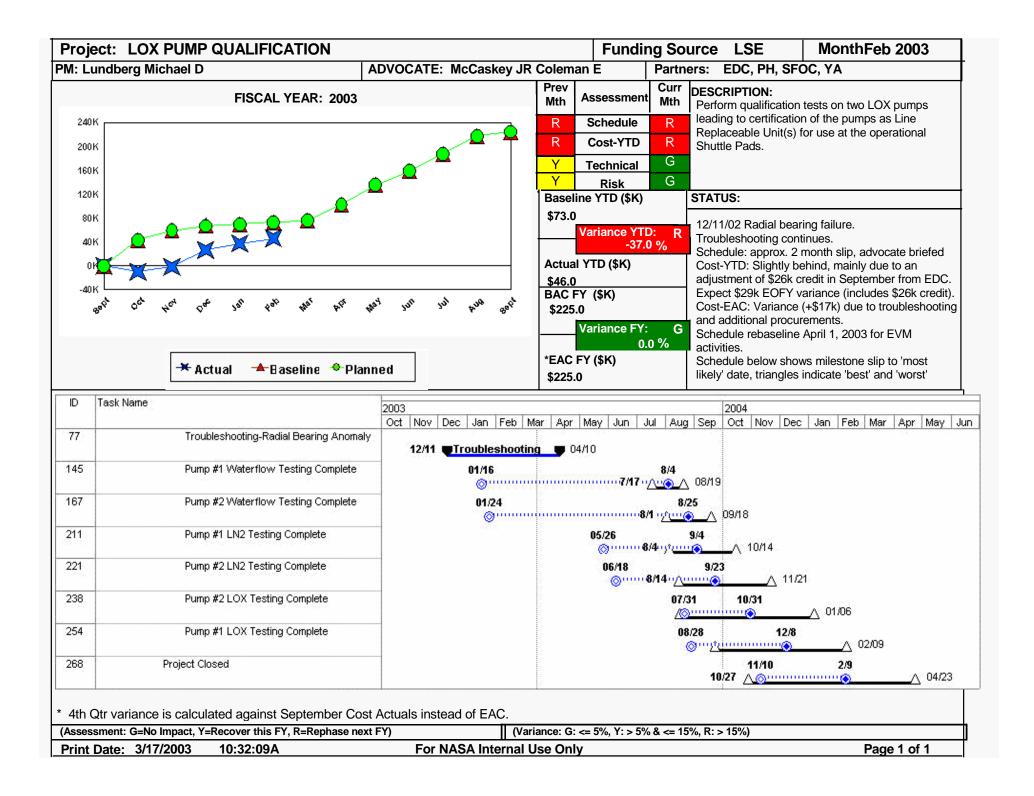


Microsoft Project Web Access

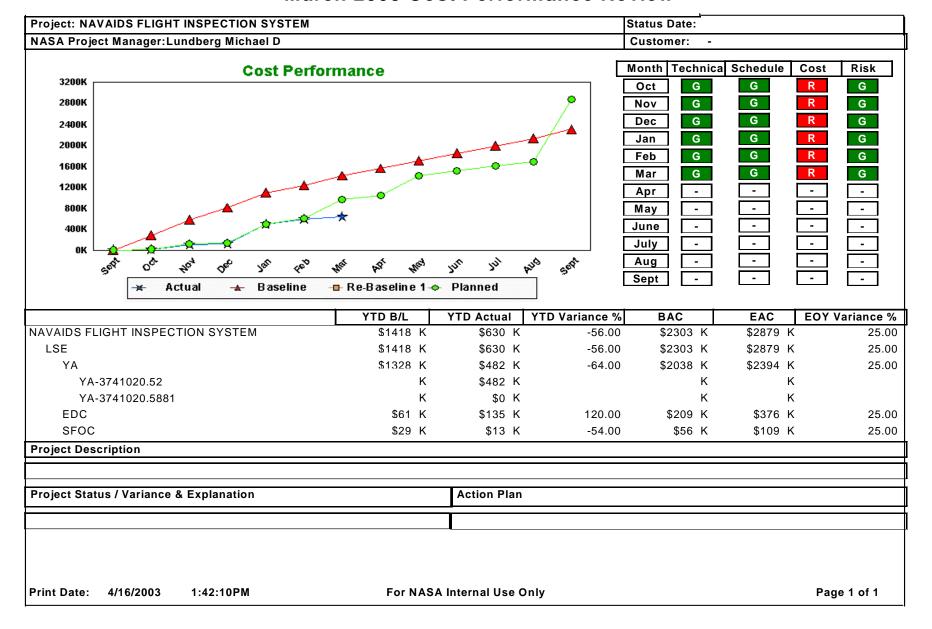
KPRO Fund Source POP Freeze

Select a Fund Source Shuttle Ops (Shuttle Operations Support) 💌	
elect a POP Year 2004 🔽	
▼ <u>Discipline</u> ▼ <u>Project</u> ▼ <u>Freeze Date</u> ▼ <u>UnFreeze Date</u>	
OPTIONS	
Save	
DO NOT fill in a date if you want to freeze/ur	nfreeze NOW.
•	
	Future Freeze/Unfreeze Date
Freeze: All	Future Freeze/Unfreeze Date (MM/DD/YYYY)
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O UnFreeze: All Freeze by Discipline: Bio-Chem Labs	Image: square of the control of the contro

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- March 2003 Cost Performance Review



BASELINE PMR STATUS REPORT

Fund Source = LSE; Fiscal Year = 2004; Discipline = (All); Project = (All); BPO = (All);

(Cum Dollars in Thousands)

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
AL YEAR: 2004													
ND SOURCE TOTAL		e Equipment 19342	20276	20052	24000	22320	22700	22752	22720	25007	25040	25040	2504
	COMP	19342	20376 0	20653	21890 2903	1453	22700 1834	22752 2072	22769 2084	25907	25918	25918	2591
	COMA OP	18007	19802	20281	21256	21895	22643	2072	22754	25892	25918	25918	2591
	OA.	0	0	1	1	1453	1694	1850	2019	20092	20010	20010	255
Pr Yr. 6620	CP	1460	3250	5575	9713	12912	14950	17500	19738	23125	24474	26432	284
F1 11. 0020	CA	1000	2600	4393	7109	8220	10671	12186	13648	20125	241.4	20452	204
	cv%	-32	-20	-21	-27	-36	-29	-30	-31				
DISC TOTAL: Bio-													
	COMP	40	40	40	42	42	42	42	42	42	42	42	4
	COMA	0	0	0	0	0	0	0	0				
	OP	40	40	40	40	42	42	42	42	42	42	42	4
	OA	0	0	0	0	0	0	0	0				
Pr Yr. O	CP	3	7	10	13	17	20	25	28	32	35	39	4
	CA	1	7	9	9	9	11	12	16				
	CV%	-85	12	-8	-31	-43	-44	-51	-45				
Project Total: HY	PER SPILL DETEC										Project Mgr	: Lawhorn Te	resa M
	COMP	40	40	40	42	42	42	42	42	42	42	42	4
	COMA	0	0	0	0	0	0	0	0				
	OP	40	40	40	40	42	42	42	42	42	42	42	4
	OA	0	0	0	0	0	0	0	0				
Pr Yr.0	CP	3	7	10	13	17	20	25	28	32	35	39	4
PI TI.U										32	33	35	,
	CA	1	7	9	9	9	11	12	16				
	CV %	-85	12	-8	-31	-43	-44	-51	-45				
BPO: USTDC	COMP	40	40	40	40	40	40	40	40	40	40	40	
	COMP	0	0	-40	0	0	-40	0	0	40	40	40	
	OP	40	40	40	40	40	40	40	40	40	40	40	
	OA.	0	0	0	0	0	0	0	0	40	40	40	
Pr Yr. O	CP	3	7	10	13	17	20	23	26	30	33	37	
	CA	1	7	9	9	9	11	12	16				
	CV %	-100	0	-10	-31	-47	-45	-48	-39				
BPO: YA	OV 26	100			21		-10	-10					
	COMP	0	0	0	2	2	2	2	2	2	2	2	

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APPROVED PMR STATUS REPORT

Selection Criteria for Report: Fund Source = LSE; Fiscal Year = 2004; Discipline = (All); Project = (All); BPO = (All);

(Cum Dollars in Thousands)

					(cam bonar	s in incusari	4-7						
		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEF
AL YEAR: 2004													
IND SOURCE TOTAL: L													
	COMP	12229	12267	12350	13801	13782	14684	16896	19653	25633	26311	26767	278
	COMA	0	0	- 1	2903	1453	1834	2072	2084				
	OP	12229	12256	12271	12320	13782	14520	16410	18154	25234	26062	26767	278
	OA	0	0	1	1	1453	1694	1850	2019				
Pr Yr. 9770	CP	1115	2748	4785	5942	8357	11166	12487	14213	16777	21448	26441	332
	CA	1000	2600	4393	7109	8220	10671	12186	13648				
	CV%	-10	-5	-8	20	-2	-4	-2	-4				
DISC TOTAL: Bio-Ch													
	COMP	0	0	0	0	0	0	4	11	16	21	26	
	COMA	0	0	0	0	0	0	0	0				
	OP	0	0	0	0	0	0	4	9	16	21	26	
	OA	0	0	0	0	0	0	0	0	25			
Pr Yr. 11	CP	1	7	9	9	9	11	15	20	25	30	37	
	CA	1	7	9	9	9	11	12	16				
	CV%	0	0	0	0	0	0	-18	-23				
Project Total: HYPI	ER SPILL DETECTION											gr: Lawhorn	
	COMP	0	0	0	0	0	0	4	11	16	21	26	
	COMA	0	0	0	0	0	0	0	0				
	OP	0	0	0	0	0	0	4	9	16	21	26	
	OA	0	0	0	0	0	0	0	0				
Pr Yr. 11	CP	1	7	9	9	9	11	15	20	25	3.0	37	
	CA	1	7	9	9	9	11	12	16				
	CV%	0	0	0	0	0	0	-18	-23				
BPO: USTDC													
	COMP	0	0	0	0	0	0	4	9	14	19	24	
	COMA	0	0	0	0	0	0	0	0				
	OP	0	0	0	0	0	0	4	9	14	19	24	
	OA.	0	0	0	0	0	0	0	0				
Pr Yr. 11	CP	1	7	9	9	9	11	15	20	25	30	35	
	CA	1	7	9	9	9	11	12	16				
	CV %	-100	0	0	0	0	0	-20	-20				
BPO: YA			-	-	-	-	-						
2. 3. 16	COMP	0	0	0	0	0	0	0	2	2	2	2	
	COMA	0	0	0	0	0	0	0	0				
	OP	0	0	0	0	0	0	0	0	2	2	2	
	C)A	0	0	0	0	0	0	0	0				
nt Date: 6/22/2004													